AN ANNOTATED LIST OF TRICHOPTERA OF SEVERAL STREAMS ON EGLIN AIR FORCE BASE, FLORIDA[1,2]

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ABSTRACT: The distribution and seasonal occurrence of adult Trichoptera along three small streams within Eglin Air Force is presented. The trichopteran fauna was represented by 56 species, seven of which are undescribed.

The Florida panhandle is known to support a number of disjunct northern populations and endemic species of plants and animals (Neill, 1957), but studies of aquatic insects in the area have been few. Several caddisflies, including *Cheumatopsyche petersi* and *Agarodes ziczac,* are thought to be endemic to this region (Ross et al., 1971; Ross and Scott,1974).

Eglin Air Force Base is located in the Florida panhandle in portions of Walton, Okaloosa, and Santa Rosa Counties (Fig. 1). Since the early 1970's, base personnel have been engaged in gathering baseline environmental information for the watersheds of the area. These watersheds are primarily sandhills with a pine-oak association. As part of this environmental program, a survey and analysis of the macroinvertebrate fauna of several streams on the base was initiated.

Three streams in the eastern half of the base, Rocky Creek, Ramer Branch, and Bull Creek (Figs. 1 and 2), were collected from 1978 to 1980. Rocky creek empties into Choctawhatchee Bay while Ramer Branch and Bull Creek are tributaries to Titi Creek which empties into the Shoal River. Five sites on the upper portions of Rocky Creek and two each on Bull Creek and Ramer Branch were sampled for Trichoptera. All sites, with the exception of site 3, were located in wooded areas with fairly heavy canopy. Site 3 was situated in an open area immediately below a small impoundment. The streams were small and clear with moderate streamflow. Substrates were primarily sand except at site 3 where the bottom consisted of sand and

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gravel. Water quality was good at all sites, although pH and mineral content were low (Table 1).

Adult Trichoptera were collected using UV light traps (BioQuip Universal Trap) situated on the stream banks. Traps were operated from dusk to dawn at approximately monthly intervals. Specimens were collected dry and later preserved in 80% ethyl alcohol.

Annotated List of Species

Trichoptera were represented in the study area by 56 species in 26 genera and 14 families. Information for each species includes collection site, collection dates, and number of adult male specimens collected( ). Only males of the species were identified, except as noted.

Hydropsychoidea

Philopotamidae

Chimarra aterrima Hagen. Sites 3, 5, 6. 20 April, 8 June, 19 Sept. (4)

Chimarra florida Ross. Sites 1-5, 8, 9. 14 March-19 Sept. (51) Most (80%) of the specimens were collected at site 3. A possible distribution factor could be the high amount of gravel intermixed with sand at this site.

Chimarra n. sp. All sites. 14 March-19 Sept. (219) This species is a member of the *Chimarra socia* complex which is currently being revised by PKL, SCH, and R.W. Holzental of Clemson University.

Wormaldia moesta (Banks). Site 3. 8 June. (1)

Psychomyiidae

Lype diversa (Banks). Sites 1, 3. 16 Aug., 8 Nov. (3)

Polycentropidae

Neureclipsis melco Ross. Sites 1, 3-5, 8. 14 March-11 May, 19 Sept. (6)

Nyctiophylax affinis (Banks). Sites 1, 2, 8. 11 May, 8 June. (4)

Nyctiophylax n.sp. Sites 1, 2, 4, 5, 7. 25 April-11 May, 19 Sept. (10) Material being described by PKL and SCH.

Polycentropus cinereus Hagen. Sites 1-3. 14 March-20 April. (8)

Polycentropus n.sp. Site 5. 11 May. (1) Material being described by PKL and SCH.

Hydropsychidae

Cheumatopsyche n.sp. All sites. 20 April-19 Sept. (78) Material being described by PKL and SCH.

Cheumatopsyche pasella Ross. Sites 1-3, 8. 20 May-8 June. (16)

Cheumatopsyche petersi Ross, Morse, and Gordon. Sites 1-5, 7. 14 April-8 June, 19 Sept. (66) All but three specimens were collected at the lower Rocky Creek sites.

Cheumatopsyche pettiti (Banks). Sites 1-4, 6-8. 11 May-8 June, 19 Sept. (26)

Cheumatopsyche virginica Denning. Sites 1-8. 14 March, 11 May-19 Sept. (36) The largest numbers of specimens were collected at site 3.

Diplectrona modesta Banks. All sites. 11 May-19 Sept., 8 Nov. (41)

Hydropsyche decalda Ross. Sites 1, 3. 14 March, 20 April-8 June, 8 Nov. (41)

Hydropsyche ellisoma Ross. All sites. 14 March-19 Sept. (250) Most of the specimens were collected at site 3 during March and April.

Hydropsyche incommoda Hagen. Sites 1, 3, 5. 11 May. (3)

Macronema carolina Banks. Sites 1-6, 8. 20 April-16 Aug., 8 Nov. (89 males, 103 females) Greatest number of specimens were collected at site 3, primarily during the spring.

Rhyacophiloidea

Rhyacophilidae

Rhyacophila carolina Banks. Sites 1, 6. 5 May, 19 Sept. (3) Previously known only from the southern Appalachians.

Hydroptilidae

Hydroptila hamata Morton. Site 3. 8 June. (1)

Hydroptila latosa Ross. Sites 1, 3-5. 20 April, 8 June, 8 Nov. (67) The greatest numbers (65%) were collected at site 3 during June.

Hydroptila quinola Ross. All sites. 25 April-8 June, 19 Sept. (41) As with *H. latosa,* most of specimens collected at site 3 during June.

Hydroptila remita Blickle and Morse. Sites 1, 5. 20 May. (3)

Mayatrichia ayama Mosely. Sites 3, 4, 7. 11 May, 8 June, 19 Sept. (6)

Oxyethira elerobi (Blickle). Site 1. 8 June. (1)

Oxyethira glasa (Ross). Sites 3, 5. 11 May, 8 June. (3)

Oxyethira janella Denning. Site 5. 8 June. (1)

Oxyethira novasota Ross. Site 5. 8 June. (1)

Oxyethira setosa Denning. Site 3. 8 June. (1)

Oxyethira zeronia Ross. Site 3. 11 May. (1)

Limnephiloidea

Phryganeidae

Banksiola concatenata (Walker). Site 1. 11 May. (1)

Brachycentridae

Brachycentrus numerosus (Say). Sites 1-5. 14 March-11 May, 8 Nov. (31)

Micrasema n.sp. All sites. 20 April-8 June. (45) Species being described by J.W. Chapin. Edisto Experiment Stat. South Carolina. The majority of the specimens were collected at site 3.

Limnephilidae

Pycnopsyche scabripennis Rambur. Sites 1-5. 8 Nov., 6 Dec. (72 males, 83 females) 90% of the specimens were collected at sites 1 and 2.

Lepidostomatidae

Lepidostoma sp. Site 4. 11 May. (1)

Sericostomatidae

Agarodes crassicornis (Walker). Sites 1, 3. 11 May. (4)
Agarodes ziczac Ross and Scott. All sites. 14 March-19 Sept. (202) Primarily restricted to the headwater portions of the streams.

Molannidae

Molanna ulmerina Navas. Site 4. 8 June. (1)
Molanna tryphean Betten. All sites. 14 March-19 Sept., 8 Nov. (18)

Calamoceratidae

Anisocentropus pyraloides (Walker). Sites 1, 2, 4, 6, 9. 25 April-11 May, 16 Aug.-19 Sept. (11)

Leptoceridae

Ceraclea maculata (Banks). Sites 1-3. 11 May-8 June. (5)
Ceraclea nepha (Ross). Sites 3, 5. 20 April, 11 May. (3)
Ceraclea protonepha Morse and Ross. Sites 2, 3, 5, 6, 8. 20 April-8 June. (13)
Ceraclea tarsipunctata (Vorhies). Sites 3, 5. 25 April-11 May. (28)
Nectopsyche candida (Hagen). Site 3. 11 May-8 June. (5)
Nectopsyche exquisita (Walker). All sites. 14 March-8 Nov. (113) Most of the specimens (60%) were collected in May at sites 3 and 4.
Oecetis cinerascens (Hagen). Site 1. 8 Nov. (1)
Oecetis georgia Ross. Site 6. 19 Sept. (1)
Oecetis n.sp. Site 9. 20 May. (1) Species being described by J. Bueno-Soria, Instituto de Biologia, Universidad Nacional Autonoma de Mexico.
Oecetis osteni Milne. Sites 1, 3, 6. 11 May, 19 Sept. (3)
Oecetis sphyra Ross. Sites 3, 9. 8 June, 19 Sept. (3)
Triaenodes helo Milne. Sites 1, 5, 7, 8. 25 April, 20 May, 16 Aug., 19 Sept. (4)
Trianenodes ignitus (Walker) Sites 1, 3, 5, 6, 8. 20 May-8 June. (6)
Trianenodes n.sp. Site 1. 11 May, 8 June. (2) Species being described by K.L. Manuel, Duke Power Co., North Carolina.

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Table 1. Physicochemical water quality parameters, expressed as means, for three streams on Eglin Air Force Base, Florida. Rocky Creek readings were made monthly, July 1978-June 1979; Bull Creek and Ramer Branch readings were bimonthly, August 1979-June 1980.

Sampling site	Stream-flow (cm/sec)	Temperature (°C)	pH	O2 (mg/1)	Total alkalinity (mg/1)	Total hardness (mg/1 $CaCO_3$)	Chloride (mg/1 NaCl)
Rocky Creek							
1	40.2	21.8	5.4	8.3	5.3	4.9	12.3
2	36.0	21.1	5.3	8.2	5.2	5.0	11.8
3	45.1	20.2	5.6	8.7	4.3	5.9	11.4
4	47.6	20.0	5.5	8.3	4.4	5.2	12.2
5	55.2	19.9	5.5	8.4	4.4	5.4	11.3
Bull Creek							
6	33.5*	19.3	5.4	8.3	3.9	5.5	11.3
7	45.7*	19.1	5.1	8.4	3.9	6.1	11.2
Ramer Branch							
8	45.7*	19.1	5.5	8.8	4.1	5.9	11.5
9	45.7*	19.3	5.4	8.6	3.5	5.8	10.9

*Single reading, 16 August 1979

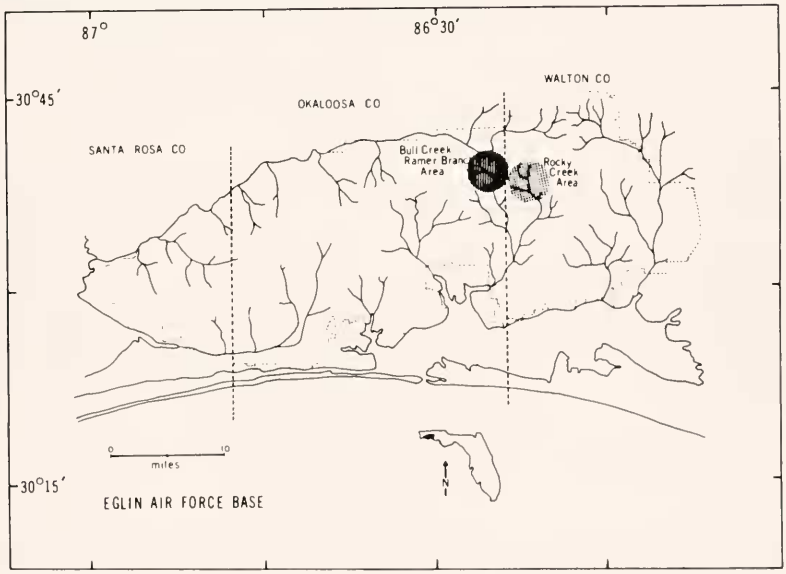

Figure 1. Study areas on Eglin Air Force Base, Florida.

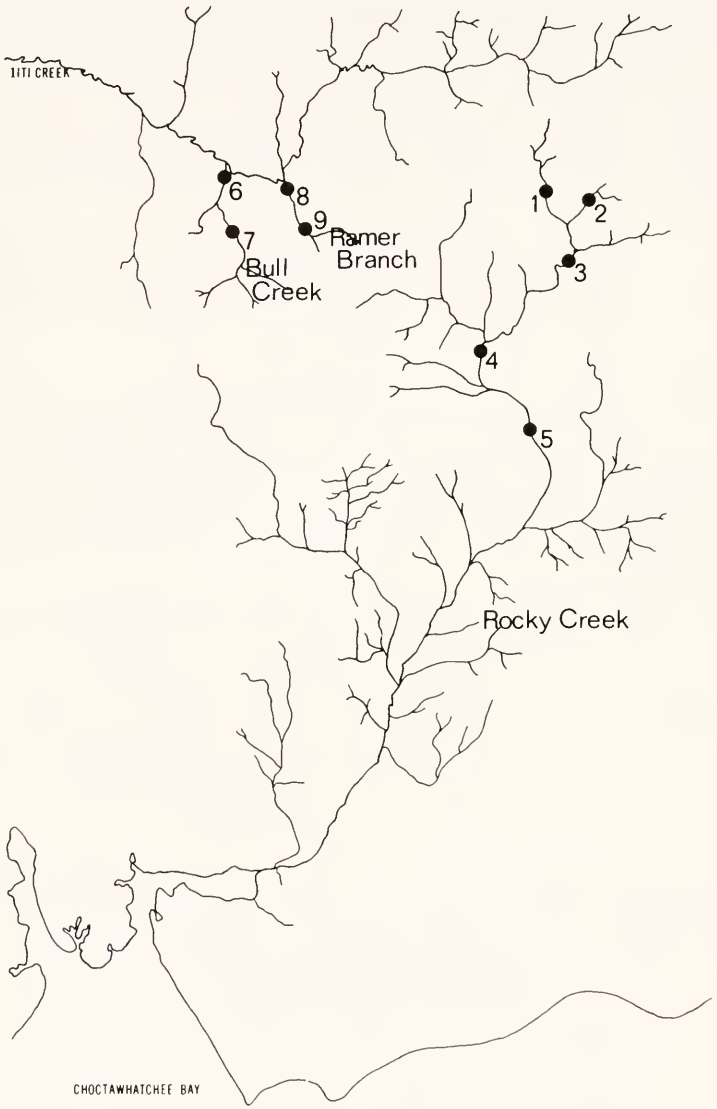

Figure 2. Sampling sites on Rocky and Bull Creeks and Ramer Branch on Eglin Air Force Base, Florida.